

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 7535 (1975): Liver Extract, Microbiological Grade [FAD
15: Food Hygiene, Safety Management and Other Systems]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



IS : 7535 - 1975

(Reaffirmed 2005)

Indian Standard
SPECIFICATION FOR
LIVER EXTRACT, MICROBIOLOGICAL GRADE

UDC 664.932.22 : 637.514.28 : 663.1



© Copyright 1975

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110001

Price Rs 5.00

Gr 2

May 1975

Indian Standard

SPECIFICATION FOR

LIVER EXTRACT, MICROBIOLOGICAL GRADE

Food Hygiene, Sampling and Analysis Sectional Committee, AFDC 36

Chairman

DR RANJIT SEN

Representing

Serologist to the Government of India (Directorate
General of Health Services), Calcutta

Members

AGRICULTURAL MARKETING ADVISER TO THE GOVERNMENT OF INDIA	Directorate of Marketing & Inspection (Ministry of Agriculture & Irrigation), Faridabad
SHRI T. V. MATHEW (<i>Alternate</i>)	
SHRI V. N. AMBLE	Institute of Agricultural Research Statistics (ICAR), New Delhi
SHRI K. S. KRISHNAN (<i>Alternate</i>)	
SHRI K. BALASUBRAMANIAN	Public Analyst, Government of Tamil Nadu, Madras
COL S. L. CHADHA	Health Department, Municipal Corporation of Delhi
DR A. J. AJWANI (<i>Alternate</i>)	
DR G. C. DAS	Health Officer, Corporation of Calcutta
DR P. K. DATTA	All India Institute of Hygiene and Public Health, Calcutta
SHRI SUKUMAR DE	National Dairy Research Institute (ICAR), Karnal
DR C. A. MULAY (<i>Alternate</i>)	
DIRECTOR	Central Food Laboratory, Calcutta
EXECUTIVE HEALTH OFFICER	Bombay Municipal Corporation
MUNICIPAL ANALYST (<i>Alternate</i>)	
HEALTH OFFICER	Corporation of Madras
DR (SMT) S. KHOSLA	Department of Health & Family Planning, Government of Punjab, Chandigarh
DR P. K. KYMAL	Food & Nutrition Board (Ministry of Agriculture & Irrigation), New Delhi
DR O. N. AGARWALA (<i>Alternate</i>)	
SHRI F. G. T. MENEZES	Directorate of Sugar & Vanaspati (Ministry of Agriculture & Irrigation), New Delhi
SHRI D. VENKATAPPAIA (<i>Alternate</i>)	
MAJ V. A. NARAYANAN	Defence Food Research Laboratory (Ministry of Defence), Mysore
DR G. M. VERMA (<i>Alternate</i>)	
PUBLIC ANALYST (FOOD AND WATER)	Government of West Bengal, Calcutta
PUBLIC ANALYST, BACTERIOLOGY (<i>Alternate</i>)	

(Continued on page 2)

© Copyright 1975

INDIAN STANDARDS INSTITUTION

This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

(Continued from page 1)

<i>Members</i>	<i>Representing</i>
DR T. N. RAMACHANDRA RAO	Central Food Technological Research Institute (CSIR), Mysore
SHRI C. T. DWARAKANATH (<i>Alternate</i>)	
COL K. SEETARAM	Quartermaster General's Branch, Army Head- quarters
LT-COL O. P. KAPUR (<i>Alternate</i>)	
SENIOR MEDICAL OFFICER (CATERING)	Northern Railway, New Delhi
DR S. B. SINGH	Public Analyst, Government of Uttar Pradesh, Lucknow
DR T. A. V. SUBRAMANIAN	Vallabhbhai Patel Chest Institute, Delhi
DR M. C. SWAMINATHAN	Directorate General of Health Services (Ministry of Health & Family Planning), New Delhi
SHRI D. S. CHADHA (<i>Alternate</i>)	
SHRI P. C. VIN	The Coca Cola Export Corporation, New Delhi
SHRI J. D. CONTRACTOR (<i>Alternate</i>)	
DR HARI BHAGWAN, Director (Agri & Food)	Director General, ISI (<i>Ex-officio Member</i>)
	<i>Secretary</i>
	SHRI SOHRAB
	Assistant Director (Agri & Food), ISI

Food Microbiology Subcommittee, AFDC 36 : 7

<i>Convener</i>	
DR RANJIT SEN	Serologist to the Government of India, Directorate General of Health Services, Calcutta
<i>Members</i>	
AGRICULTURAL MARKETING ADVI- SER TO THE GOVERNMENT OF INDIA	Directorate of Marketing & Inspection (Ministry of Agriculture & Irrigation), Faridabad
DR T. V. MATHEW (<i>Alternate</i>)	
ASSOCIATED PROFESSOR OF MICRO- BIOLOGY	All India Institute of Medical Sciences, New Delhi
DR C. S. BALLE	Defence Food Research Laboratory (Ministry of Defence), Mysore
SHRI K. C. EAPEN (<i>Alternate</i>)	
DR A. N. BOSE DIRECTOR	Bengal Immunity Co Ltd, Calcutta King Institute, Madras
DR D. V. MURTHY (<i>Alternate</i>)	
DR A. K. GHOSH	Cholera Research Centre (ICMR), Calcutta
HEAD, DIVISION OF BIOLOGICAL PRODUCTS	Indian Veterinary Research Institute (ICAR), Izatnagar
DR A. P. JOSHI	Vallabhbhai Patel Chest Institute, Delhi
DR (SMT) V. BAJAJ (<i>Alternate</i>)	
DR A. D. MUKHERJEE	Bengal Chemical and Pharmaceutical Works Ltd, Calcutta
DR A. N. RAI CHOWDHURI	Central Research Institute, Kasauli

(Continued on page 6)

Indian Standard

SPECIFICATION FOR

LIVER EXTRACT, MICROBIOLOGICAL GRADE

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 16 January 1975, after the draft finalized by the Food Hygiene, Sampling and Analysis Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Unless the ingredients used in media for microbiological work are of uniform quality, the results obtained would be erroneous and would be unreliable. Since the media used in different laboratories often differ greatly in their quality, the results of microbiological work at different laboratories cannot be compared. Therefore, with a view to unifying the practices of different laboratories dealing with microbiology and providing guidance to the indigenous manufacturers regarding the quality of various ingredients, it has been decided to bring out a series of Indian Standard Specifications for ingredients commonly used in media for microbiological work.

0.3 Liver extract also known as proteolysed liver, is used in microbiological work. It is obtained by the proteolytic digestion of mammalian livers.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes requirements and methods of sampling and test for liver extract (proteolysed liver), microbiological grade.

2. REQUIREMENTS

2.1 The material shall be in the form of a pale or greyish-brown powder, or brown paste with a meaty but not putrid odour.

2.2 The material shall be almost completely soluble in water. The pH of a 5 percent aqueous solution shall be between 5 and 7.

*Rules for rounding off numerical values (*revised*).

2.3 Vitamin B₁₂ activity of the material shall be not less than 0.1 µg/g when analysed by the method given in IS : 7529-1975*.

2.4 The material shall also conform to the requirements given in Table 1.

TABLE 1 REQUIREMENTS FOR LIVER EXTRACT, MICROBIOLOGICAL GRADE

Sl. No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO	
			Appendix of This Standard	Cl No. of IS : 6854-1973*
(1)	(2)	(3)	(4)	(5)
i)	Moisture, percent by mass, <i>Max</i>	7	—	4
ii)	Sulphated ash, percent by mass, <i>Max</i>	7	A	—
iii)	Amino acid nitrogen, percent by mass, <i>Max</i>	3.5	—	8
iv)	Total nitrogen, percent by mass (on dry basis), <i>Min</i>	13	—	9

*Methods of sampling and test for ingredients used in media for microbiological work.

3. PACKING, MARKING AND STORAGE

3.1 Packing — The material shall be securely packed in well-filled wide-mouth containers so as to preclude contamination of contents.

3.2 Marking — Each container shall be marked legibly to give the following information:

- Name of the material including the words ' Microbiological Grade',
- The amount of B₁₂ contained per gram,
- The name and proportion of any preservative contained in it,
- Name and address of the manufacturer,
- Minimum net content, and
- Batch or code number.

3.2.1 Each container may also be marked with the ISI Certification Mark.

NOTE—The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

*Method for estimation of vitamin B₁₂ in foodstuffs.

3.3 Storage — The material shall be stored in cool and dry place.

4. SAMPLING

4.1 The representative samples of the material shall be drawn according to the method prescribed in 3 of IS : 6854-1973*.

5. TESTS

5.1 Tests shall be carried out by the methods prescribed in 2.2, 2.3 and in col 4 and 5 of Table 1.

5.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (*see* IS : 1070-1960†) shall be employed in the tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the experimental results.

APPENDIX A

[Table 1, Item (ii)]

DETERMINATION OF SULPHATED ASH

A-1. REAGENTS

A-1.1 Sulphuric Acid Solution — 10 percent.

A-2. PROCEDURE

A-2.1 Weigh 5 g of sample in a 50- to 100-ml platinum or silica dish. Add 5 ml of sulphuric acid solution, ignite until the sample is well carbonized and then ash in a muffle furnace at about 550°C. Cool, add 2 to 3 ml sulphuric acid solution, evaporate on steam bath, dry on hot plate, and again ignite at about 550°C to constant mass. Express the results as percent sulphated ash.

A-3. CALCULATION

A-3.1 Sulphated ash, percent by mass = $\frac{M_2 - M_1}{M} \times 100$

where

M_2 = mass, in g, of ash with dish;

M_1 = mass, in g, of dish; and

M = mass, in g, of the sample.

*Methods of sampling and test for ingredients used in media for microbiological work.

†Specification for water, distilled quality (*revised*).

(Continued from page 2)

Members

DR T. N. RAMACHANDRA RAO

DR B. RANGANATHAN

DR N. S. SUBBA RAO

DR M. V. SANT

COL K. SEETARAM

LT-COL O. P. KAPUR (*Alternate*)

Representing

Central Food Technological Research Institute
(CSIR), Mysore

National Dairy Research Institute (ICAR), Karnal

Indian Agricultural Research Institute (ICAR),
New Delhi

Haffkine Institute, Bombay

Quartermaster General's Branch, Army Head-
quarters

INDIAN STANDARDS ON FOOD MICROBIOLOGY

IS :

5401-1969	Methods for detection and estimation of coliform bacteria in foodstuffs
5402-1969	Method for plate count of bacteria in foodstuffs
5403-1969	Method for yeast and mould count of foodstuffs
5404-1969	Code of practice for handling of food samples for microbiological analysis
5887-1970	Methods for detection of bacteria responsible for food poisoning and foodborne diseases
6850-1973	Agar, microbiological grade
6851-1973	Meat extract, microbiological grade
6852-1973	Bile salts, microbiological grade
6853-1973	Peptone, microbiological grade
6854-1973	Methods of sampling and test for ingredients used in media for microbiological work
7004-1973	Yeast extract, microbiological grade
7127-1973	Tryptone, microbiological grade
7128-1973	Proteose peptone, microbiological grade
7203-1973	Casein hydrolysate (acid digested), microbiological grade
7535-1975	Liver extract, microbiological grade
7536-1975	Soluble starch, microbiological grade
7590-1975	Gelatin, microbiological grade
7591-1975	Malt extract, microbiological grade

INDIAN STANDARDS INSTITUTION

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110001

Telephone : 27 01 31 (20 lines)

Telegrams : Manaksanstha

Branch Offices:

	Telephone
' Sadhna ', Nurmohamed Shaikh Marg, Khanpur, AHMEDABAD 380001	2 03 91
F Block, Unity Bldg, Narasimharaja Square, BANGALORE 560002	2 76 49
534 Sardar Vallabhbhai Patel Road, BOMBAY 400007	35 69 44
5 Chowringhee Approach, CALCUTTA 700013	23-08 02
Kothi No. 90, Sector 18A, CHANDIGARH	2 83 20
5-8-56/57 Nampally Station Road, HYDERABAD 500001	4 57 11
117/418 B Sarvodaya Nagar, KANPUR 208005	82 72
54 General Patters Road, MADRAS 600002	8 37 81
B. C. I. Bldg (Third Floor), Gandhi Maidan East, PATNA 800004	2 56 55